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MARKETING RESEARCH CAPABILITY
OF THE
AGRICULTURAL RESEARCH SERVICE
U. S. DEPARTMENT OF AGRICULTURE

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CORRECTIONS AND ADDENDA

Please forward any corrections, personnel changes, or added items as they occur. Correction sheets will be issued periodically.

The material in this booklet has been recorded on magnetic tape for use in an automatic typewriter and revised editions will be prepared as needed.

Revised research statements, if provided, will be included in new editions.

Dale L. Anderson
Staff Scientist
Transportation & Facilities
Marketing, Nutrition & Engineering
Agricultural Research Service
U.S. Department of Agriculture

William G. Chace
Staff Scientist
Market Quality
Marketing, Nutrition & Engineering
Agricultural Research Service
U.S. Department of Agriculture

MARKETING RESEARCH CAPABILITY
of the
AGRICULTURAL RESEARCH SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Marketing research has been conducted in the U.S. Department of Agriculture for over 60 years. In 1946, it was given new emphasis when the Congress directed the Department of Agriculture to conduct "continuous research to improve the marketing, packaging, handling, storage, processing, transportation, and distribution of agricultural products," and authorized cooperation with other branches of the Government, State agencies, private research organizations, and industry in conducting the research.

Currently most marketing research is conducted in the Agricultural Research Service (ARS) and the Economic Research Service with some research activities in the Farmer Cooperative Service. Marketing research in the ARS was previously housed in two divisions: the Market Quality Research Division and the Transportation and Facilities Research Division. In July 1972, the ARS was reorganized into regional offices and these divisions ceased to exist.

However, the marketing research program has continued and, in some cases, has been strengthened. There is more coordination between various disciplines and skills and more involvement of marketing personnel in team research efforts on major problems.

Many friends of marketing research from outside ARS have indicated that they find it difficult to locate marketing functions or personnel. This publication locates the activities and people formerly housed in the former marketing divisions and also includes other ARS research that should be of interest to people in the marketing field.

Research locations and personnel are listed by ARS regions. In addition, there is a functional index of the research and an alphabetical listing of personnel.

ADMINISTRATION AND HEADQUARTERS STAFF

The Agricultural Research Service (ARS) is under the leadership of Assistant Secretary for Conservation, Research and Education, Robert W. Long, Room 212, Administration Building, ARS, USDA, Washington, D.C. 20250 (202) 447-2796 and Deputy Assistant Secretary, Paul A. Vander Myde, Room 212A, (202) 447-7107.

ARS Administration

	<u>Rm. /Bg.</u>	<u>Ext.</u>
Washington, D.C. 20250 Phone: (202) 447 + extension		
Talcott W. Edminster, Administrator	302/A	3656
Dr. Michael J. Pallansch, Acting Assistant Administrator for Marketing, Nutrition and Engineering Sciences Evelyn T. Ford, Secretary	338/A	5134
Dr. T. B. Kinney, Jr., Assistant Administrator for Livestock and Veterinary Sciences	334/A	5121
Dr. H. O. Graumann, Assistant Administrator for Plant and Entomological Sciences	324/A	3961
Dr. C. W. Carlson, Assistant Administrator for Soil, Water and Air Sciences	330/A	7157

National Program Staff

The National Program Staff (NPS) scientists provide a national overview for the fields which they represent. They review line research programs, recommend program shifts or expansions, assist in coordinating programs, and provide a communications medium between various ARS units, other USDA agencies, and agencies of government, industry, and the public. The NPS provides the primary central source of technological information about specific research programs within ARS.

Beltsville, Maryland 20705
Phone: (301) 344 + extension

(NPS scientists with a national overview in marketing related fields.)

Dale L. Anderson, Staff Scientist for Transportation and Facilities Sara Jean Binder, Secretary	214/005	2780
Dr. William G. Chace, Jr., Staff Scientist for Market Quality Eleanor Hammer, Secretary	213/005	2777
Dr. Harry W. Hays, Staff Scientist for Food Safety and Health Lila Steen, Secretary	225/005	3648
Dr. Lyman G. Henderson, Staff Scien- tist for Man Animal & Stored Product Insects & Household Pests Gertrude Orenstein, Secretary	332/005	3924
Dr. Walter G. Lovely, Staff Scientist for Farm Machinery (Engineering) Evelyn Montieth, Secretary	222/005	2540

Program Analysis & Coordination Staff

The Program Analysis & Coordination Staff (PAC) assists the ARS Administrator in preparing budget and other materials pertaining to broad areas of ARS research. Each PAC staff scientist will work with several NPS scientists in assembling budget or program materials.

Beltsville, Maryland 20705
Phone: (301) 344 + extension

(PAC staff scientists of primary interest to marketing.)

Dr. Calvin Golumbic, Marketing & Nu- trition Science Janet Stotler, Secretary	206/005	2737
Donald T. Black, Engineering Science Leona Knepp, Secretary	210/005	3337
Thomas D. Neis, Project and Program Coordinator (Handles CRIS) Vacancy, Secretary	107A/005	2732

Technical Advisors

Technical Advisors (TA) will be listed when they have been designated.

MARKETING RESEARCH COORDINATING COMMITTEE

This is a special committee established to coordinate marketing research within the regional ARS structure. The MRCC was established in recognition of the special problems in marketing research due to needs for short-term interregional planning and coordination. The committee is chaired by the NPS marketing scientists and consists of NPS representatives plus two representatives appointed by each Regional Deputy Administrator.

Membership

Dale L. Anderson, NPS, Chairman
Dr. William G. Chace, Jr., NPS, Vice-Chairman
Lyman G. Henderson, NPS representative
Dr. Calvin Golumbic, PAC representative

Northeastern Region representatives

Dr. Essex E. Finney, Jr.
Donald R. Stokes

North Central Region representatives

Dr. Y. Pomeranz
George H. Foster

Western Region representatives

Dr. John M. Harvey
James B. Fountain

Southern Region representatives

Dr. James R. Doggers
Dr. T. T. Hatton, Jr.

Transportation Test Shipment Subcommittee

The working subcommittee of the Marketing Research Coordinating Committee (MRCC) was established to plan and oversee test shipment research involving more than one region of ARS. The committee prepares an annual plan for research test shipments involving two or more research stations, identifying budgetary and manpower needs by each region. It coordinates this research and maintains control of test instruments which are included in transportation tests.

Current Membership

Philip L. Breakiron, Chairman
Dr. John M. Harvey, Vice-Chairman
Dr. William G. Chace, Jr., NPS Coordinator
James B. Fountain
Dr. Jack B. Wilson
Thomas H. Camp
Dr. T. T. Hatton
Dr. Louis Beraha
Lawrence A. Risse
Dr. Laurie G. Houck

NORTHEASTERN REGION

States

Connecticut
Delaware
Maine
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont
West Virginia
Rotterdam, Netherlands

Deputy Administrator

Dr. Steven C. King
Northeastern Regional Research Headquarters
Room 333, Building 003
Agricultural Research Center-West
Beltsville, Maryland 20705
(301) 344-3418 FTS & COM

Beltsville Area

Dr. Angus A. Hanson
Area Director
Room 227, Building 003
Agricultural Research Center-West
Beltsville, Maryland 20705
Phone: (301) 344-3078 FTS & COM

Dr. Paul A. Putnam
Assistant Area Director

Dr. C. Edith Weir
Assistant Area Director

Anne Voleschen
Secretary

Florence Toffon
Secretary

Hilda MacMichael
Secretary

BELTSVILLE AGRICULTURAL RESEARCH CENTER
Beltsville, Maryland

The Agricultural Research Center at Beltsville, Maryland, is bisected by U.S. Route 1 into the Agricultural Research Center East, (The Farm), and the Agricultural Research Center West, (Plant Industry Station). In 1972, research at Beltsville was realigned into nine Institutes comprising 67 Laboratories. Each of these Institutes is concerned with one or more areas of study designed to provide continuing solutions to ever-changing problems and needs. One Institute is the Agricultural Marketing Research Institute.

AGRICULTURAL MARKETING RESEARCH INSTITUTE

Dr. E. E. Finney, Jr., Chairman
Carol A. Tracey, Secretary
Room 130, Bg. 003, ARC-West
Phone: (301) 344-3338 FTS & COM

The Agricultural Marketing Research Institute conducts research to find ways of delivering farm products of high and uniform quality to consumers at minimum cost.

Agricultural production involves nearly 3 million farms scattered across the Nation. Many farm products are fragile and perishable and vary naturally in quality. The marketing system that brings this vast array of products together and puts them at the disposal of over 200 million American consumers is complex and expensive. About two-thirds of the consumer's food bill consists of marketing costs. Efficiency in the marketing of farm products is vital for agriculture and for the national economy.

Investigations by the Institute aim at solving technological and operational problems within the agricultural marketing system. Scientists and engineers of many disciplines study facilities, equipment, and techniques to improve the handling, processing, sorting, packaging, storage, transportation, and distribution of agricultural products. Scientists also seek to improve the economic status of the American farmer by improving the domestic marketing system and expanding foreign markets.

Dairy and Poultry Products Marketing Laboratory

This Laboratory works to develop improved facilities, equipment, and methods for processing, storing, and distributing dairy and poultry products. These studies are conducted mainly in selected plants in cooperation with industry. When new or modified facilities are needed, the type, size, location, and cost are determined; efficient plant and equipment layouts are developed; and work methods suitable for the new facilities are recommended.

Increasing effort is being directed toward assisting plant operators in meeting the stringent laws governing food processing. Guidelines and standards for efficient facilities and equipment are developed to assure acceptable performance and sanitary conditions that are required by regulations for wholesome food preparation, employee health and safety, and environmental protection.

Phone: (301) 344 + extension

Bg. 307, Rm. 117, ARC-East

Vacancy, Chief.....	2800
J. W. Goble, Agricultural Marketing Specialist.....	2802
C. E. Harris, Agricultural Marketing Specialist.....	2803
C. F. Stewart, Agricultural Marketing Specialist.....	2801
Rosemary Ershaw, Secretary-Typist.....	2800
Georgette Nagel, Clerk-Typist.....	2800

Bg. 309, ARC-East

Dr. W. A. Moats, Research Chemist.....	2224
J. A. Kinner, Research Food Technologist.....	2225
M. Gillooly, Biological Aid.....	2225
S. Maddox, Physical Science Aid.....	2225
Donna Peterman, Clerk-Stenographer.....	2224

Food Distribution Research Laboratory

The Food Distribution Research Laboratory conducts studies of facilities and methods used in the physical distribution of food and other farm products. These studies are conducted to evaluate the present facilities and methods and to plan improvements. They include facility design, layout, location, construction, equipment, and operational procedures. Specifically, the work focuses on research and technical assistance to develop improved wholesale marketing facilities in cities and on research and technical assistance to develop improved wholesale warehouses, retail outlets, and food service establishments that are used for the distribution of food and other farm products.

The mission of this work is to help increase the overall efficiency of the physical distribution of these products.

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Bg. 307, Rm. 130, ARC-East

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G. A. Bange, Agricultural Marketing Specialist....	2805
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J. J. Karitas, Agricultural Marketing Specialist...	2805
J. N. Morris, Industrial Engineer.....	2805
R. K. Overheim, Agricultural Marketing Specialist.	2805
Dr. H. S. Ricker, Agricultural Marketing Specialist	2805
Dr. J. L. Runyan, Agricultural Marketing Specialist	2805
E. G. Taylor, Agricultural Marketing Specialist....	2805
Rosa Chiddo, Secretary-Typist.....	2805
Nancy Johnson, Clerk-Typist.....	2805
Sara J. Popish, Clerk-Typist.....	2805

Horticultural Crops Marketing Laboratory

Researchers are working to identify, measure, and protect desirable qualities in horticultural crops, from harvest to consumption, and to improve the equipment and facilities required to market these products. Objectives of these studies are to: Determine optimum environments for each commodity before processing or during storage, distribution, and display; develop or evaluate new methods of measuring product quality; reduce damage due to postharvest diseases or other causes through temperature, chemicals, and other treatments; develop improved packaging to protect quality and retard deterioration; and improve storage and packinghouse methods, equipment, and facilities.

The Laboratory cooperates with the Agricultural Marketing (AMS) Service and other Federal agencies and with industry and State Experiment Stations. Technical services are provided to national fruit and vegetable organizations, producers, and others who transport or market fresh horticultural products.

Phone: (301) 344 + extension

Bg. 002, Rm. 112, ARC-West

Dr. R. E. Hardenburg, Research Horticulturist, Laboratory Chief.....	3128
Dr. A. E. Watada, Research Food Technologist	3483
Dr. W. L. Smith, Research Plant Pathologist.	3128
Dr. R. E. Anderson, Research Horticulturist..	3128
H. W. Hruschka, Plant Physiologist.....	3128
Dr. H. E. Moline, Research Plant Pathologist..	3128
R. W. Penney, Research Mechanical Engineer..	3128
Judith Abbott, Horticulturist	3483
Barbara Aulenbach, Food Technologist.....	3483
G. A. Brown, Biological Lab Technician.....	3128
R. H. Day, Biological Technician.....	3128
Ellen Lynch, Laboratory Helper.....	3128
Margaret Moore, Biological Aid.....	3483
Sandy Clevenger, Secretary- Typist.....	3128
Margaret Roberts, Clerk-Typist.....	3128
Sue Johnson, Biological Aid.....	3128

Bg. 006, ARC-West

J. T. Worthington, Research Horticulturist.....	3483
Ann Hazelwood, Biological Lab Technician.....	3483

Instrumentation Research Laboratory

This Laboratory develops new and improved instruments and techniques for measuring the quality of a wide range of agricultural products--composition, texture, flavor, odor, color, and physical structure.

Techniques currently emphasized are light transmittance and reflectance for evaluating composition, and sonic-resonance techniques for evaluating texture. The Laboratory also develops instruments for measuring optical and sonic properties of agricultural products.

The researchers are engineers. Most of the work is done in cooperation with commodity specialists from other units of the Agricultural Marketing Research Institute.

Phone: (301) 344 + extension

Bg. 002, Rm. 103, ARC-West

K. H. Norris, Research Agricultural Engineer, Laboratory Chief.....	3650
D. R. Massie, Research Agricultural Engineer....	3650
J. D. Rowan, Research Agricultural Engineer.....	3650
Dr. E. E. Finney, Jr, Research Agricultural Engineer.....	3650
G. F. Button, Jr, Electricial Technician.....	3650
M. F. Combs, Physical Science Technician.....	3650
Joyce Shaffer, Secretary-Typist.....	3650

Livestock and Meat Marketing Laboratory

Basic and applied research on beef, pork, poultry, lamb, and fish provide scientific data for USDA grading and inspection programs that so Department regulations can be evaluated continuously and revised as necessary. Scientists also seek to improve meat quality and reduce marketing costs by: (1) Improving procedures for determining the quality of meat products; (2) developing more adequate means of measuring the quality of wool fiber; (3) controlling microbiological, physical, and chemical deterioration or contamination of meat; and (4) improving facilities for marketing livestock and meat products.

The work is carried out at Beltsville and at meat marketing centers throughout the country in cooperation with industry. Additional studies are undertaken by cooperative agreement with State Experiment Stations and PL 480 grants to foreign scientists.

Phone: (301) 344 + extension

Bg. 047A, ARC-West

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Dr. T. F. Webb, Agricultural Economist.....	3525
Dr. K. Ono, Research Chemist.....	3526
Peggy Summers, Secretary-Stenographer.....	3526
Margaret Day, Clerk-Stenographer.....	3525

Bg. 048, ARC-West

A. R. Hayden, Research Chemist.....	3526
P. F. Crowe, Research Chemist.....	3526
Jean Marie Dyer, Biological Aid.....	3526

Bg. 006, ARC-West

Dr. B. S. Emswiler, Microbiologist.....	3412
Marilyn Stanfield, Biological Lab Technician.....	3411

Bg. 201, ARC-East

Dr. H. R. Cross, Research Food Technologist.....	2400
H. R. Smalley, Agricultural Marketing Specialist..	2400
Dr. T. G. Althen, Research Animal Scientist.....	2401
D. K. Rough, Biological Lab Technician.....	2401
Linda Harbin, Clerk-Stenographer.....	2400

Market Operations Research Laboratory

Research concerns improved handling of all agricultural products as they move from farms to consumers. The main objective is to rearrange, combine, or otherwise modify agricultural marketing processes to increase efficiency and decrease costs. Examples of current investigations are: Costs, potential cost reductions, and quality comparisons for various systems of handling and transporting the following food products: table stock potatoes, from grower to retail store; beef, from slaughterhouse to retail store; frozen foods, from processor to wholesale warehouse; eggs, from packing plant to retail store; groceries, from manufacturer to wholesale warehouse; and citrus fruit, from grower to retail store. In addition, research is being conducted on evaluation of various systems, costs, and environmental conditions for marketing feeder livestock, from producer to feedlot, in cooperation with ARS scientists at College Station, Texas, and the Southwestern Great Plains Research Center, Bushland, Texas.

This research involves scientists working in a broad range of disciplines--engineering, mathematics, economics, statistical analysis, and marketing to provide technical and engineering assistance to industry in the planning of food marketing facilities.

Phone: (301) 344 + extension

Bg. 307, Rm. 120, ARC-East

J. C. Bouma, Agricultural Marketing Specialist, Laboratory Chief.....	2810
J. P. Anthony, Industry Economist.....	2810
C. L. Goulston, Industrial Engineer.....	2810
L. F. Kremer, Illustrator.....	2810
R. C. Mongelli, Industry Economist.....	2810
B. E. Lederer, Agricultural Marketing Specialist.	2810
M. D. Volz, Industrial Engineer.....	2810
C. A. Schoenberger, Engineering Aid.....	2810
W. Dameron, Statistical Clerk.....	2810
Rose Giannantonio, Secretary- Stenographer.....	2810

Post-Harvest Plant Physiology Laboratory

The overall mission of the Laboratory is to develop basic information that will contribute to better understanding of aging and senescence of flowers, fruits, vegetables, and seeds after harvest. This information is needed to develop improved methods for transportation, storage, and handling of perishable agricultural products.

The post-harvest physiology and biochemistry of fruits, vegetables, and seeds are studied. The mode of action of ethylene is being studied to clarify the interaction of this substance with other plant hormones in growth, development, aging, and senescence. Plant tissues are studied with the electron microscope to detect changes in intracellular organelles that may be associated with senescence. Changes in acid phosphatases and other enzymes associated with senescence also are studied in aging cells. Investigations seek to establish the fundamental physiological and biochemical bases for vigorous seed growth and development.

Phone: (301) 344 + extension

Bg. 002, Rm. 205, ARC-West

Dr. M. Lieberman, Research Plant Physiologist, Laboratory Chief.....	3014
Dr. J. E. Baker, Plant Physiologist.....	3013
Dr. A. Abdul-Baki, Plant Physiologist.....	3013
Dr. J. D. Anderson, Plant Physiologist.....	3013
Barbara Bailey, Biological Lab Technician.....	3013
S. L. Garrett, Biological Lab Technician.....	3013
Delores Sessions, Secretary-Stenographer.....	3013

Seed Quality Laboratory

This Laboratory conducts basic and applied research on germination, vigor, dormancy, storability, pathology, and variety of seeds. The main thrust of the work is toward improved methods and equipment for determining seed quality. Marketing of seeds is based on quality and must comply with Federal and State legislation.

Other major efforts include the development of methods for predicting the storage potential of seeds and understanding the basic causes of seed quality deterioration.

Research on oilseeds and cereals include: Detecting any vegetable proteins that might be added to meat products; determining the effect of storage practices on development of molds and aflatoxins in cottonseed and developing methods of detecting them; developing methods for evaluating the market quality of oilseeds and oilseed products, and the effect of natural antioxidants on vegetable oils.

Phone: (301) 344 + extension

Bg. 049, ARC-West

C. S. Garrison, Plant Physiologist, Laboratory Chief.....	3467
Dr. M. M. Kulik, Research Plant Pathologist.....	3467
Margaret Seldin, Biological Lab Technician.....	3467
Florence Cox, Secretary-Typist.....	3467

Bg. 047, ARC-West

Dr. L. W. Woodstock, Plant Physiologist.....	3218
Dr. R. W. Yaklich, Plant Physiologist.....	3218
E. W. Goins, Biological Aid.....	3218

Bg. 006, ARC-West

Vivian Toole, Plant Physiologist.....	3505
Dorothy Humphrey, Biological Lab Technician.....	3505

Bg. 309, ARC-East

M. E. Whitten, Research Chemist.....	2460
J. Velasco, Research Chemist.....	2462
Dr. B. Deacon, Research Chemist.....	2461
S. L. Morris, Physical Science Aid.....	2461
Linda Lanzafame, Physical Science Aid.....	2461

Transportation and Packaging Research Laboratory

Scientists conduct research to improve the efficiency of moving farm and food products to both domestic and foreign markets--by improving transportation equipment, techniques, and services. Packaging specialists develop, test, and evaluate improved packages, packing materials, and shipping containers for agricultural products in order to reduce marketing costs and solid wastes from packaging. Their work includes research to develop standard size packages, shipping containers, and unitloads. They also develop and evaluate improved transport vehicles, including van containers for shipping perishable and nonperishable commodities by land, sea, and air. The research also seeks more effective methods of using transport equipment and services through improved loading, refrigeration, and cargo-securing methods to improve the transportation environment for the products and reduce transportation and related handling costs.

Phone: (301) 344 + extension

Bg. 011A, Rm. 124, ARC-West

P. L. Breakiron, Industry Economist, Laboratory Chief.....	2815
B. H. Ashby, Agricultural Marketing Specialist.	2821
W. A. Bailey, Agricultural Engineer.....	2815
W. R. Black, Agricultural Marketing Specialist.	2815
R. F. Guilfoy, Jr., Mechanical Engineer.....	2815
K. E. Hoke, .Agricultural Marketing Specialist.	2815
W. G. Kindya, Agricultural Economist.....	2815
C. J. Nicholas, Industry Economist.....	2821
D. R. Stokes, Agricultural Marketing Specialist	2821
Ruth Ann Spalding, Secretary-Stenographer.....	2815
Ann Holmes, Clerk-Stenographer.....	2821

EUROPEAN MARKETING RESEARCH CENTER
Rotterdam, Netherlands

38 Marconistraat
Phone: 010 76 55 38 or 010 76 65 38
Telex: 26649 - usars nl

Research is conducted to develop transport equipment and techniques, packaging methods, and quality maintenance that will reduce handling, costs, and market losses and pilferage of U.S. farm products exported to European markets. The research is designed to increase agricultural exports by improving the quality delivered and reducing costs of handling, packaging, and transport. Researchers cooperate with U.S. research centers on test shipments of U.S. commodities; they report back to U.S. scientists on technological developments in Europe and European market preferences of a technical nature. They also provide support services to U.S. agricultural attaches in Europe on agricultural commodities.

Lawrence A. Risse, Agricultural Economist, Research Leader
Dr. Roy McDonald, Horticulturist
Anton Bongers, Agriculturalist
Ben Hillebrand, Food Technologist
Marijke deLoose, Secretary

Other Institutes of Interest to MarketingAGRICULTURAL ENVIRONMENTAL QUALITY INSTITUTE
Beltsville, Maryland

Dr. L. L. Danielson, Chairman
Gladys Bolton, Secretary
Room 233, Bg. 001 (South Bg., ARC-W)
Phone: (301) 344-3030 FTS & COM

Man's environment--air, soil, and water--may be affected favorably or unfavorably by agricultural production. Research in this Institute is devoted to developing agricultural practices that minimize or avoid damaging the environment.

Because of the vast and increasing need of the world for food and fiber, the Institute is also searching for ways to reduce the adverse effects of pollution on agricultural production.

Research is underway to develop safer pesticides; devise cultural, mechanical, and biological alternatives to objectionable pesticides; measure the degradation of pesticides and determine effects of heavy metals in air, soil, water, and plants; develop systems for recycling animal wastes; revegetate desolated strip-mine areas; and identify the effects of air pollutants on plants.

NUTRITION INSTITUTE
Beltsville, Maryland

Dr. W. Mertz, Chairman
Ruth McConnell, Secretary
Room 226, Bg. 308 (North Lab., ARC-E)
Phone: (301) 344-2157 FTS & COM

The Nutrition Institute is concerned with establishing human and animal requirements for energy, protein, carbohydrate, lipids, vitamins, and minerals. It also conducts investigations to determine the nutritional qualities of foods, including macronutrients and micronutrients in foods.

CONSUMER AND FOOD ECONOMICS INSTITUTE
Hyattsville, Maryland

Dr. Robert L. Rizek, Chairman
Peggy Drake, Secretary
Room 321, Center Building-1
Phone: (301) 436-8457 FTS & COM

This Institute is concerned with a national program of basic and applied research to improve diets, levels of living, and home management practices of families. The research program includes: (1) measuring food consumption and dietary levels, (2) developing standard reference tables on the nutritive values of food, (3) formulating nutritional guidelines for education and action programs, (4) identifying factors affecting formation and change of food habits, (5) developing principles and improved procedures for food use in homes and institutions, and (6) analyzing family use of resources and identifying economic problems of families. Institute specialists--nutritionists, home economists, economists, chemists, statisticians, and others--use the research to assess the well-being of the population and to develop guidance materials such as food budgets, dietary guides, and other aids to help families make the best use of their food, money, and time resources.

North Atlantic Area

Dr. Jack B. Wilson
Area Director
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Tower Road
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Wanda E. Powell
Secretary Stenographer

EASTERN MARKET PATHOLOGY LABORATORY
New Brunswick, New Jersey 08903
(formerly Belle Meade, New Jersey)

Cook College
Food Science Department
Rutgers University
P. O. Box 231
Phone: (201) 932-9881 COM

This Laboratory is concerned with research dealing with the identification and determination of diseases and disorders of horticultural crops moving in eastern markets; development of methods to reduce losses; receiving, evaluating, and reporting on test shipments from other locations; determination of market quality problems in the New York market; participation in export marketing tests for U.S. products, and development of improved marketing procedures for farm products grown in the New York--New Jersey area (in cooperation with Rutgers University).

Dr. J. B. Wilson, Pathologist, Acting Research Leader (Ithaca, N.Y.)
Dr. Frank M. Porter, Plant Pathologist
Michael Ceponis, Plant Pathologist
Susie N. Hagan, Chemist
J. Butterfield, Biological Technician
William H. Tietjen, Biological Technician
Linda A. Haffer, Secretary

POTATO HANDLING RESEARCH CENTER
Orono, Maine 04473

Greenhouse
University of Maine
Phone: (207) 581-7041 COM

This Center investigates the causes of potato losses after harvesting and develops treatments or handling, storage, transport, and packaging procedures to minimize these losses and maintain quality (in cooperation with the University of Maine).

Dr. Fred Holbrook, Research Entomologist, Research Leader
Dr. Donald E. Hudson, Research Horticulturist
Dr. Simeon S. Leach, Research Plant Pathologist
Joan Hall, Clerk-Typist

Other Locations or Activities of Interest to Marketing in the North-
eastern Region

THE NATIONAL AGRICULTURAL LIBRARY

U.S. Route 1
Beltsville, Maryland 20705

Dr. Richard A. Farley, Director
Joseph F. Caponio, Associate Director
Mary Ball, Secretary
Phone: (301) 344-3779 FTS & COM

A 15-story tower and adjacent 2-story wing houses the National Agricultural Library (NAL)--one of the three national libraries in the United States and the most modern library facility in the world that specializes in agriculture. The library has assembled a collection of over 1.5 million volumes. NAL is engaged in a long-range program of building a responsive information system. Programs are designed to serve and support the rapidly changing and expanding interests of the national and international agricultural communities.

EASTERN REGIONAL RESEARCH CENTER

Philadelphia, Pennsylvania 19118

Dr. I. A. Wolff, Director
Ellen Martin, Secretary
600 East Mermaid Lane
Phone: (215) 247-5242 FTS

This Center conducts basic agricultural, chemical, and physical property studies on a wide range of agricultural products to develop new or more efficient uses for farm products. Particular specialties are in animal fat, meat, hides and leather, milk, and plant products.

Poultry Research Laboratory
Georgetown, Delaware 19947

R. D. 2, Box 600
Phone: (302) 856-0046 COM

This laboratory investigates management, nutritional, and stress factors which affect product quality of poultry.

Dr. Lloyd H. Littlefield, Supervisory Research Animal Scientist,
Research Leader, Location Leader
Charlotte Speicher, Secretary

WESTERN REGION

States

Arizona
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

Deputy Administrator

Dr. H. Rex Thomas
Western Region Headquarters
2850 Telegraph Avenue
Berkeley, California 94705
(415) 486-3565 FTS

California--Hawaii--Nevada Area

Dr. Wilbur D. McClellan
Area Director
2021 South Peach Avenue
P. O. Box 8143
Fresno, California 93727
(209) 487-5351 FTS

James Gilmore, Jr.
Assistant Area Director

Dr. Peter H. van Schaik
Assistant Area Director

Edna L. Carlisle
Secretary

Hilda Jarrett
Secretary

Market Quality and Transportation Research Laboratory
Fresno, California 93727

2021 South Peach Avenue
Phone: (209) 487-5334 FTS

The Market Quality and Transportation Research Laboratory is concerned with the handling, packaging, transportation, and storage of horticultural crops. Current emphasis is on export to European and Far Eastern markets, palletization, postharvest handling of mechanically harvested crops, mycotoxins on tree nuts, controlled atmosphere effects on vegetable crops and ornamentals, and decay control in tree fruits.

Dr. John M. Harvey, Plant Pathologist, Research Leader
Dr. Werner J. Lipton, Plant Physiologist
Dr. Douglas J. Phillips, Plant Pathologist
Dr. Masami Uota, Horticulturist
Russell H. Hinds, Jr., Industry Economist
Joseph K. Stewart, Horticulturist
R. Tom Hinsch, Agricultural Economist
Roger E. Rij, Agricultural Marketing Specialist
C. Max Harris, Plant Physiologist
Verna Gaynor, Secretary
Bernece Wright, Secretary

Stored-Product Insects Research Laboratory
Fresno, California 93727

5578 Air Terminal Drive
Phone: (209) 487-5338 FTS
(209) 291-6671 COM

This is the only stored-product insects research laboratory within the Western Region of ARS. The mission of the laboratory is to develop and improve methods to control insects that attack stored dried fruits and tree nuts and other stored agricultural commodities usually from the time of harvest until consumed either as human food or animal feed. The research program consists of studies in biology and ecology and development and improvement of chemical, physical, and biological methods and insect-resistant packaging.

Howard D. Nelson, Entomologist, Research Leader
Dr. William R. Kellen, Entomologist
Dr. Albert P. Yerington, Entomologist
Dr. Douglas K. Hunter, Entomologist
Dr. Charles E. Curtis, Entomologist
Dr. Edwin L. Soderstrom, Entomologist
Garth H. Spitler, Entomologist
James E. Lindegren, Entomologist
Rose Harikian, Secretary

Poultry Marketing Research
Davis, California 95616

Room 3060, Bainer Hall
University Farm
University of California
Phone: (916) 239-0813 FTS

This facility was concerned with poultry processing, chilling, packaging, and storage in commercial turkey processing plants and egg handling facilities (in cooperation with the University of California, Davis). Current research is in poultry plant waste management problems. However, Mr. Shupe is the only engineer in ARS conversant with turkey processing problems.

William L. Shupe, Mechanical Engineer, Research Leader

Citrus Storage and Marketing Research
Riverside, California 92502

Boyden Entomology Laboratory
University of California
P. O. Box 112
Phone: (714) 787-1373 FTS & COM

Personnel at this Laboratory are concerned with postharvest storage, transportation, and market quality problems of Western citrus fruit and other subtropicals. Typical research includes: Fungicides and their application for postharvest decay control; determination of fungicide residue levels on fruit at packing and after arrival in domestic or foreign markets; nonchemical controls for postharvest disorders and decays; physiological disorders as chilling and degreening injury, rind breakdowns, etc.; extended storage requirements of fruit for orderly marketing; carton stacking patterns for proper fruit refrigeration during shipping, including palletized and nonpalletized methods. Personnel work closely with industry, State Agricultural Experiment Stations, and ARS researchers in California and Arizona, as well as ARS market pathology laboratories in the eastern U.S. and European markets.

Dr. Laurie G. Houck, Plant Pathologist and Acting Research Leader
S. M. Norman, Food Technologist
David Fouse, Agricultural Research Technician
John Snider, Biological Laboratory Technician
Lucille Greeney, Clerk-Typist

Oregon--Washington Area

Dr. Stanley N. Brook
Area Director
Washington State University
Johnson Hall
Pullman, Washington 99163
(509) 335-6631 FTS

Dr. Boyd W. George
Assistant Area Director

Sandra Mooney
Secretary

Transportation and Packaging Research
Yakima, Washington 98902

3706 West Nob Hill Boulevard
Phone: (509) 248-5341 FTS

Research to improve transportation and packaging of agricultural commodities for shipment to domestic and foreign markets is the mission of this laboratory. Major emphasis is on improved shipping containers and palletization for northwestern stone fruits.

Dr. Harold R. Moffitt, Entomologist, Location Leader
James B. Fountain, Agricultural Economist, Research Leader
Roy M. Hovey, Agricultural Economist
Mary Jane Johnson, Secretary

Market Quality, Handling, and Storage Research
Wenatchee, Washington 98801

Yakima & Mission Streets
Box 99, P. O. Annex III
Phone: (509) 663-0317 FTS
(509) 663-2657 COM

The Laboratory is studying the effects of preharvest environment and controlled treatment on fruit quality and storability; the effects of postharvest treatment on fruit quality and storage life; and the development of improved handling and storage methods for tree fruits.

Dr. H. Melvin Couey, Plant Physiologist, Location Leader
Dr. Max W. Williams, Plant Physiologist, Research Leader
Dr. Kenneth L. Olsen, Plant Physiologist
Dr. Charles F. Pierson, Plant Pathologist
Glenn O. Patchen, Mechanical Engineer
Stanley W. Burt, Industrial Engineer
Elsie Percival, Secretary

Other Locations or Activities of Interest to Marketing in the Western
Region

WESTERN REGIONAL RESEARCH CENTER
Berkeley, California 94710

Dr. Arthur I. Morgan, Jr., Director
Ardis F. Marinovich, Secretary
800 Buchanan Street
Phone: (415) 486-3506 FTS & COM

This Center conducts basic research to develop new uses and processing technology for agricultural commodities, including cereal products, poultry, western fruits and vegetables, and wool.

Subtropical Fruit Laboratory
Pasadena, California 91106

Dr. Vincent P. Maier, Chemist, Research Leader, Location Leader
May Flock, Clerk-Typist
263 S. Chester Avenue
Phone: (213) 681-7294 COM

This Laboratory is concerned with improved technology for processing subtropical fruits with special emphasis on the study of biochemistry and carotenoid chemistry, enzymes, juice composition, plant constituents, and sweetness.

NORTH CENTRAL REGION

States

Arkansas
Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

Deputy Administrator

Earl R. Glover
North Central Regional Headquarters
2000 West Pioneer Parkway
Peoria, Illinois 61614
(309) 673-9577 FTS

Iowa--Missouri Area

Dr. Loyd A. Tatum
Area Director
800 North Providence Road
Columbia, Missouri 65201
(314) 442-3256 FTS
(314) 442-2271 COM

Dr. Charles W. Alexander
Assistant Area Director

Mary C. Easterday
Secretary-Stenographer

University of Missouri
Columbia, Missouri 65201

University of Missouri--Columbia

Waste Disposal Research (Fischer)

This project is involved in four areas of animal residue management: (1) the anaerobic decomposition of animal residue into a utilizable gas for the farmstead and into a stable, odorless organic sludge high in fertilizer value; (2) the development of a model of an anaerobic animal lagoon; (3) the analysis of recovering algae from lagoon water via paper filtration; and (4) the analysis of purple sulphur bacteria and their role in odor reduction in a lagoon.

Livestock Marketing (Mayes)

Research work covers engineering problems in the marketing of livestock including market layout, labor utilization, and other related items. The current project is concerned with waste disposal from livestock markets. Project objectives are to determine volume of wastes produced by various species of livestock, amount of water used in cleaning impervious floors of livestock markets, characteristics of the wastes, and the waste and wash water in terms of pollution parameters. This information will be used to evaluate existing facilities and to design new or improved facilities for treating wastes from livestock markets.

Food Engineering Research (Anderson)

This project is concerned with the development of methods and equipment to reduce the foreign material on selected solid foods during processing and distribution to increase shelf life, safety, and quality of the product. Studies are also being conducted to develop instrumentation and equipment to continuously monitor the rate of removal of food residue from a food contact surface and detergent reuse.

Livestock Environment (Hahn)

This project is concerned with research on environment stress on livestock. This work is of particular interest to marketing because of the recent involvement in research on live animal transportation.

Weed and Insect Control Equipment Research (Gebhardt)

Expertise of this laboratory on spray nozzles is being utilized in food engineering research.

Phone: (314) 442-3193 FTS
(314) 442-2271, ext. 3193 COM

Agricultural Engineering Building T-12

Dr. Maurice R. Gebhardt, Agricultural Engineer, Research Leader

Dr. James R. Fischer, Agricultural Engineer

David B. Smith, Agricultural Engineer

Donald G. Stevens, Agricultural Engineer

Dr. G. L. Hahn, Agricultural Engineer

Herman F. Mayes, Agricultural Engineer

Wanda Kaiser, Secretary

Phone: (314) 442-3182 FTS
(314) 882-6280 COM

Eckles Hall

Dr. Maynard E. Anderson, Agricultural Engineer

Iowa State University
Ames, Iowa 50010

Agricultural Engineering Building

Phone: (515) 294-1747 FTS
(515) 294-5723 COM

This facility is involved in improved methods and equipment for harvesting and farm handling, drying, and storage of grain to maintain quality and reduce energy consumption and costs.

Robert A. Saul, Agricultural Engineer

Gerald L. Kline, Agricultural Engineer

Vergil G. Haynes, Instrument Maker

C. Kay Mikkelsen, Secretary-Stenographer

Illinois--Indiana--Ohio Area

James G. Hartsock
Acting Area Director
2336 Northwestern Avenue
West Lafayette, Indiana 47906
(317) 633-7679 FTS
(317) 463-4413 COM

Margaret Morehouse
Secretary-Stenographer

Market Pathology Laboratory
Chicago, Illinois 60605

536 South Clark Street, Room 183
Phone: (312) 353-6678 FTS & COM

This Laboratory is concerned with (1) identification and origins of diseases and disorders in horticultural crops as received in or moving through Midwest markets; (2) handling horticultural products in the market as related to quality retention; (3) receiving and evaluating test shipments originated by research personnel in the production areas; (4) assistance and instruction of fruit and vegetable inspectors in identification of market diseases and disorders; and (5) fundamental studies of host parasite relationships in produce wastage.

Dr. Louis Beraha, Plant Pathologist, Research Leader,
Location Leader
W. R. Wright, Plant Pathologist
Marsha Kirkman, Secretary-Typist

Michigan--Minnesota--Wisconsin Area

Dr. Cornelius Van Doren
Area Director
Soil Science Building
University of Minnesota
St. Paul, Minnesota 55101
(612) 725-2974 FTS

Dr. Kenneth L. Lebsock
Assistant Area Director

Jean Babineau
Secretary

Michigan State University
East Lansing, Michigan 48823

This Laboratory is concerned with evaluating the quality of fresh fruits and vegetables when exposed to mechanized systems of harvesting, handling, and storage by developing (a) methods for reducing direct and indirect losses, (b) processes for separating the various maturities delivered by mechanical harvesting, and (c) procedures for objectively measuring maturity.

Agricultural Engineering Building
Agricultural Engineering Department
Phone: (517) 355-4720 COM

Jordan H. Levin, Agricultural Engineer, Research Leader,
Location Leader

Plant Biology Building
Botany & Plant Pathology Department
Phone: (517) 355-4689 COM

Clyde L. Burton, Plant Pathologist

RED RIVER VALLEY POTATO RESEARCH CENTER
East Grand Forks, Minnesota 56721

315 - 9th Avenue South
P. O. Box 113

This facility is involved in handling systems, washing into and out of storage, industrial engineering; potato storage structure, design, specifications, etc.; storage structures, ventilation systems, controls, specifications, etc.; biochemistry, enzymology of sugarstarch interconversions; biochemistry, etabolite of sugarstarch conversion, of stress physiology; food science, processed, new starch and protein products, physiology of total potato plant (in cooperation with Minnesota Agricultural Experiment Station).

Phone: (701) 774-6347 FTS
(218) 773-1175 COM

Lewis A. Schaper, Agricultural Engineer
Earl C. Yaeger, Agricultural Engineer
Paul H. Orr, Agricultural Engineer
Lowell P. Stanlake, Engineering Aid

Phone: (701) 774-6344 FTS
(218) 773-2473 COM

Roy L. Shaw, Jr., Food Scientist, Research Leader,
Location Leader, Director
Dr. Jerry L. Varns, Research Biochemist
Dr. Joseph Sowokinos, Research Biochemist
Kathryn Masanz, Biological Aid
Marian A. Pazderic, Secretary

University of Wisconsin
Madison, Wisconsin 53706

Department of Entomology
Phone: (608) 262 + extension FTS & COM

This research unit is concerned with preventing insect damage to dairy products in marketing channels (in cooperation with the University of Wisconsin).

Dr. Floyd E. Moeller, Entomologist, Research	
Leader.....	1732
Wendell E. Burkholder, Entomologist.....	3795
Maxine Harp, Secretary	

Dakotas--Alaska Area

Dr. Claude H. Schmidt
Area Director
702 1/2 - 28th Avenue North
P. O. Box 5033
State University Station
Fargo, North Dakota 58102
(701) 237-5351 FTS
(701) 237-5771, ext. 5351 COM

Curtis E. Johnson
Assistant Area Director

Helen O. Pepple
Secretary-Stenographer

University of Alaska
Palmer, Alaska 99645

Institute of Agricultural Sciences
P. O. Box AE
Phone: (907) 745-3257 COM

This facility is concerned with marketing of Alaskan produced agricultural products; defining market for red meats, poultry and fish, milk marketing, feasibility of Alaskan vegetable processing, industry, and other food marketing and marketing efficiency studies.

Dr. Leslie J. Klebesadel, Agricultural Economist, Research Leader,
Location Leader
Charles F. Marsh, Agricultural Economist
Erma Liebing, Clerk-Typist

Kansas--Nebraska Area

Dr. Keith E. Gregory
Area Director
P. O. Box 166
Clay Center, Nebraska 68933
(402) 762-3241 COM

Vacancy
Assistant Area Director

Janet O'Keeffe
Secretary

Vacancy
Secretary

U.S. MEAT ANIMAL RESEARCH CENTER
Clay Center, Nebraska 68933

P. O. Box 166
Phone: (402) 762-3241, COM

The Center conducts research on factors that influence composition of carcass and quality of meat from beef cattle, sheep, and swine.

Dr. Dennis R. Campion, Research Chemist, Acting Research
Leader
Dr. John D. Crouse, Food Technologist

U.S. GRAIN MARKETING RESEARCH CENTER
Manhattan, Kansas 66502

1515 College Avenue
Phone: (913) 234-4292 FTS
(913) 539-9141 COM

This Center is concerned with the study of grain from harvest to storage to processing. Research emphasizes maximizing nutritional value, consumer acceptance, and technological versatility while minimizing energy requirements and maintaining soundness and overall quality during handling, conditioning, and storage. Mission-oriented research focuses on (1) grain handling, conditioning, and storage; (2) grain quality and instrumentation for quality control; (3) hard winter wheat quality; (4) stored product insects, and (5) economics of grain handling (Economic Research Service). One unit engages in investigations on chemical and structural characteristics of grain that relate to market quality research conducted.

Grain Structure and Composition Research Unit

Dr. Y. Pomeranz, Research Chemist, Research Leader,
Center Director
Dr. Clifford A. Watson, Research Chemist, Research Leader
Dr. Larry M. Seitz, Research Chemist
Dr. Okkyung K. Chung, Research Chemist
Donald B. Bechtel, Chemist
Ralph J. McGinty, Agricultural Engineer
Harold E. Mohr, Biological Laboratory Technician
Robert Rouser, Engineering Technician
Robert B. Moore, Physical Science Technician
Deanna D. Dieker, Secretary-Stenographer
Diane Nickel, Clerk-Stenographer

Engineering Research Unit

George H. Foster, Agricultural Engineer, Research Leader
Dr. Lyle E. Stephens, Agricultural Engineer
Charles R. Martin, Agricultural Engineer
Harry H. Converse, Agricultural Engineer
G. M. Wyatt, Engineering Technician
Michael H. Klinker, Engineering Technician
Nelva H. Wilcox, Clerk-Typist

Stored-Grain Insect and Disease Control Research Unit

Dr. Lee A. Bulla, Microbiologist, Research Leader
 Dr. Hobart P. Boles, Research Entomologist
 Dr. William H. McGaughey, Research Entomologist
 Dr. David B. Sauer, Research Plant Pathologist
 Dr. Karl J. Kramer, Research Chemist
 Delmon W. La Hue, Research Entomologist
 Harrison E. McGregor, Research Entomologist
 James K. Quinlan, Research Entomologist
 John H. Schesser, Research Entomologist
 Roy D. Speirs, Research Entomologist
 Charles L. Storey, Research Entomologist
 Gailen D. White, Research Entomologist
 Warren E. Blodgett, Agricultural Research Technician
 L. B. Hendricks, Agricultural Research Technician
 Edwin B. Dicke, Agricultural Research Technician
 Loren I. Davidson, Physical Science Technician
 Ralph L. Ernst, Biological Laboratory Technician
 Joseph L. Wilson, Biological Laboratory Technician
 Aileen L. Berroth, Clerk-Stenographer

Grain Quality and End-Use Properties Research Unit

Karl F. Finney, Research Chemist, Research Leader
 Walter T. Greenaway, Research Chemist
 Dr. Deretha R. Goforth, Research Chemist
 John D. Hubbard, Chemist
 Dr. Raymond Stermer, Agricultural Engineer
 Merle D. Shogren, Research Food Technologist
 Lerance C. Bolte, Food Technologist
 Bernadine M. Eichman, Physical Science Aid
 Gary C. Daigger, Engineering Technician
 V. J. Chrest, Clerk-Stenographer

Economics of Grain Handling (Economic Research Service)

Dr. Floyd Niernberger, Agricultural Economist
 Dr. L. D. Schnake, Agricultural Economist

Other Locations or Activities of Interest to Marketing in the
North Central Region

NORTHERN REGIONAL RESEARCH CENTER
 Peoria, Illinois 61604

Dr. Robert J. Dimler, Center Director..... 4251
 Dr. William H. Tallent, Assistant Center Director..... 4252
 Dwight L. Miller, Assistant Center Director for
 for Industrial Development..... 4269
 Katherine Sevier, Secretary
 1815 North University Street
 Phone: (309) 685 + extension FTS
 (309) 685-4011 COM

This Center conducts basic and applied chemical and physical property research to develop new and improved uses for agricultural products. Research specialties are in cereal products, oilseeds, and potential new crops with emphasis on food and feed uses.

SOUTHERN REGION

States

Alabama
Arkansas
Florida
Georgia
Kentucky
Louisiana
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia

Deputy Administrator

Dr. Arthur W. Cooper
Southern Region Headquarters
701 Loyola Avenue
New Orleans, Louisiana 70153
9504) 527-6753 FTS

Mid-Atlantic Area

Dr. George R. Burns
Area Director
P. O. Box 5847
North Carolina State University
Raleigh, North Carolina 27607
(919) 755-4141 FTS
(919) 737-2844 COM

Dean W. Winter
Assistant Area Director

Linda Shell
Secretary

Beverly B. Mott
Secretary

Market Quality and Handling Research
Raleigh, North Carolina 27607

P. O. Box 5120
North Carolina State University
Phone: (919) 755-4020 FTS
(919) 737 + extension COM

The research at this facility applies statistical and engineering concepts to the problems of sampling, grading, marketing, processing, and storage of peanuts with emphasis on the protection of the consumer from aflatoxin; does plant biochemistry and flavor chemistry research related to the market quality of peanuts; develops improved systems and equipment for marketing tobacco; works toward the development of production, processing, and marketing systems that will improve the market quality of blueberries and sweet potatoes.

Weaver Hall

James W. Dickens, Agricultural Engineer, Research Leader.....	3101
Dr. Thomas B. Whitaker, Agricultural Engineer	3101
Albert H. Graves, Industrial Engineer.....	3101
Dr. Harold E. Pattee, Chemist.....	3121
James B. Satterwhite, Engineering Technician .	3101
John A. Singleton, Chemist.....	3121
Carol B. Carter, Clerk-Stenographer	
Gladys E. Autry, Clerk-Typist	

Tobacco Storage Insects Research
Richmond, Virginia 23240

P. O. Box 10125
Phone: (804) 782-2551 FTS

This research facility investigates effects of environmental factors on physiology and reproduction of insects that attack stored tobacco; evaluates fumigants and insecticides for toxicity against life stages of the cigarette beetle and tobacco moth; and develops improved programs for controlling stored-tobacco insects in warehouses and manufacturing plants.

Dana P. Childs, Research Entomologist, Research Leader,
Location Leader
Dr. Lowell W. Fletcher, Research Entomologist
James E. Overby, Biological Lab Technician
John S. Long, Biological Lab Technician
Charita C. Dooley, Clerk-Stenographer

Athens, Georgia Area

Dr. C. H. Neufeld
Area Director
P. O. Box 5677
Athens, Georgia 30604
(404) 546-3311 FTS
(404) 546-3152 COM

Dr. William C. Patterson
Assistant Area Director

Leonard L. McKinney
Assistant Area Director

Nancy J. Skelton
Secretary

Barbara N. Owens
Secretary

Eileen J. Spivey
Secretary

RICHARD B. RUSSELL AGRICULTURAL RESEARCH CENTER
Athens, Georgia 30604

The Richard B. Russell Agricultural Research Center includes market research with utilization, processing, and other activities in a number of its laboratories. Therefore, complete listings are given of the major laboratories which include marketing.

Animal Products Utilization and Marketing Research Laboratory

Dr. Arthur J. Mercuri, Microbiologist, Laboratory Chief.... 3336
Sandra H. Cochran, Clerk-Stenographer

Composition and Utilization Unit

Alvin A. Klose, Chemist, Research Leader.....	3530
Fredda J. Gillen, Biological Aid	
Dr. Douglas Hamm, Research Chemist	
Dr. Robert J. Horvat, Research Chemist	
Dr. Benjamin J. Juven, Microbiologist	
Brenda G. Lyon, Home Economist	
Gayle K. Searcy, Food Technologist	
Dr. Louis Young, Research Food Technologist	

Microbiology Unit

Dr. Arthur J. Mercuri, Microbiologist, Research Leader.	3336
Dr. L. C. Blankenship, Microbiologist	
Dr. Nelson A. Cox, Microbiologist	
Stephen E. Craven, Microbiologist Research Assistant	
Richard L. Richardson, Biological Aid	

Processing Unit

James E. Thomson, Food Technologist, Research Leader.	3478
Darrell W. Gregory, Physiologist	
John H. Holladay, Engineering Technician	
Albert D. Shackelford, Agricultural Engineer	

Production Development Unit

Dr. William Townsend, Food Technologist, Research Leader.....	3569
Carl E. Davis, Research Food Technologist	
Dr. Joe P. Hudspeth, Research Food Technologist	
Clyde E. Lyon, Food Technologist	
Haywood C. Smith, Chemist	

Environmental Engineering Research Laboratory

Rex. E. Childs, Industrial Engineer, Research Leader Laboratory Chief	3568
Connie E. Bond, Clerk-Stenographer	

Air Quality and Noise Control Unit

B. Carl Haynes, Agricultural Engineer.....	3506
James A. Dickens, Agricultural Engineer	
Pierce J. Kenney, Machinist	
Alexander C. Mottola, Research Chemical Engineer	
William F. Whitehead, Engineering Technician	

Water Quality and Waste Management Unit
 Rex. E. Childs, Industrial Engineer, Research
 Leader..... 3538
 Robert I. Hegge, Biological Laboratory Technician
 Dr. Huda S. Lillard, Research Chemist
 E. J. Lloyd, Engineering Technician
 Ronald E. Vaughn, Physical Science Aid
 Dr. William K. Whitehead, Agricultural Engineer

Field Crops Utilization and Marketing Research Laboratory

Dr. Donald Burdick, Chemist, Research Leader,
 Laboratory Chief 3318
 Gail S. Eichholz, Clerk-Stenographer

Biological Constituents Unit
 Dr. Joeseeph D. Robbins, Chemist, Research Leader 3523
 Dr. Charles W. Bacon, Microbiologist
 Dr. James K. Porter, Research Chemist

Field Crops Unit
 Dr. Donald Burdick, Chemist, Research Leader..... 3318
 Danny E. Akin, Microbiologist
 Dr. William J. Albrecht, Research Chemical Engineer
 Dr. Henry E. Amos, Research Physiologist
 Walter K. Austin, Chemist
 Dr. Franklin E. Barton, Research Chemist
 Linda B. Bomar, Chemist
 Yvonne F. Davies, Agricultural Economist
 Dr. John J. Evans, Research Chemist
 Dr. Marshall L. Fishman, Research Chemist
 Laura M. Landgraff, Chemist
 Dr. Frankie McHan, Microbiologist
 Charles F. Newberry, Chemist
 Roland R. Spencer, Research Chemist

Oilseed Crop Unit
 Dr. James A. Robertson, Research Leader..... 3338
 Theodore L. Caldwell, Physical Science Aid
 Glenn W. Chapman, Chemist
 Dr. Wiley H. Morrison, Research Chemist
 Jack K. Thomas, Physical Science Technician

Horticultural Crops Utilization and Marketing Research Laboratory

Dr. Gerald G. Dull, Chemist, Research Leader,
 Laboratory Chief..... 3320
 Joyce Y. Thaxton, Clerk-Stenographer

Composition and Properties Unit

Dr. Augustus K. Williams, Research Leader..... 3587
 Jimmy K. Avants, Physical Science Technician
 Patsy D. Cole, Biological Laboratory Technician
 Cather C. Brown, Biological Aid
 Dorothy M. Hinton, Microbiologist
 Dr. George F. Leeper, Botanist
 Dr. Russell Pressey, Research Chemist

Processing Unit

Dr. Gerald G. Dull, Chemist, Research Leader..... 3320
 Sylvester L. Brown, Physical Science Aid
 Dr. Elias D. Dekazos, Plant Physiologist
 Filmore I. Meredith, Research Chemist
 Dr. Donald E. Pearson, Research Chemist
 Gwendolyn S. Pearson, Physical Science Technician

Systems Development Unit

Arthur Herb Bennett, Agricultural Engineer,
 Research Leader..... 3588
 James H. Adams, Industrial Engineering Technician
 Dr. Gerald S. Birth, Agricultural Engineer
 William R. Forbus, Research Industrial Engineer
 Marvin C. Mealor, Biological Aid
 Judy E. Smith, Physical Science Aid
 Bobby L. Tyson, Agricultural Engineer

Other Facilities of Interest

Pharmacology Research Laboratory

Dr. Alexander C. Keyl, Pharmacologist, Research Leader, Laboratory Chief.....	3504
Frances B. White, Clerk-Stenographer	

Bioengineering Unit	
Dr. Alexander C. Keyl, Research Leader.....	3504

Pharmacodynamics Unit	
Dr. Keica Nishie, Pharmacologist, Research Leader.	3405

Tobacco and Health Research Laboratory

Dr. Orestes T. Chortyk, Chemist, Research Leader, Laboratory Chief.....	3424
Joan D. Burger, Secretary-Stenographer	

Economic Research Service Staff (ERS)	
Dr. Warren K. Trotter, Agricultural Economist.....	3326
Dixie Hyde, Secretary	

Southeast Poultry Research Laboratory
Athens, Georgia 30601

P. O. Box 1072
934 College Station Road
Phone: (404) 546-3432 FTS

This is a large laboratory separately located dealing with poultry genetics, physiology, and diseases.

Dr. Charles W. Beard, Veterinary Medical Officer,
Research Leader, Laboratory Director

Georgia--South Carolina Area

William M. Bruce
Area Director
Georgia Coastal Plain Experiment Station
Tifton, Georgia 31794
(912) 436-2244 FTS

Dr. James R. Dogger
Assistant Area Director

Dixie Reid
Secretary

Ouida Snider
Secretary

National Peanut Research Laboratory
Dawson, Georgia 31742

P. O. Box 110

Phone: (404) 526-0111 FTS

(912) 995-4481 COM

The research at the National Peanut Research Laboratory is concerned with developing or improving methods, equipment, and techniques for marketing peanuts. New or improved methods, equipment, and techniques for drying, storing, handling, shell-ing, packaging, and shipping are being developed and evaluated.

Peanut Handling Research

Reed S. Hutchison, Agricultural Engineer, Research
Leader, Location Leader

James I. Davidson, Jr., Research Mechanical Engineer

Paul D. Blankenship, Agricultural Engineer

W. O. Slay, Industrial Engineer

John D. Woodward, Research Mechanical Engineer

William G. Ferguson, Industrial Engineering Technician

Robert A. Tennille, Engineering Technician

Clyde T. Bennett, Industrial Engineering Aid

Alene Lovett, Clerk-Stenographer

Mildred Miller, Clerk-Stenographer

Market Quality Research

Charles E. Holaday, Chemist, Research Leader

Dr. Richard J. Cole, Microbiologist

Jack L. Pearson, Horticulturist

Jerry W. Kirksey, Pathologist

Larry J. Janicki, Food Scientist

John A. Lansden, Chemist

Brenda T. Wagner, Biological Laboratory Technician

Stored-Product Insects Research and Development Laboratory
Savannah, Georgia 31403

P. O. Box 5125
3401 Edwin Street
Phone: (912) 232-4331 FTS
Phone: (912) 233-7981 COM

The mission of this Laboratory is to develop new and improve upon existing methods of preventing damage to and contamination of postharvested commodities by insects in the marketing channels.

Dr. Robert Davis, Research Entomologist, Research Leader,
Location Leader, Laboratory Director
Elizabeth Weitz, Secretary-Stenographer

Biological Research Unit

To conduct fundamental research in support of the Laboratory's mission and develop or modify biological and integrated control methods that may have application in protecting postharvested commodities in the marketing channels.

Dr. Richard T. Arbogast, Research Entomologist, Research Leader
Dr. James E. Baker, Research Entomologist
Dr. G. L. LeCato, Research Entomologist
Dr. P. T. M. Lum, Research Entomologist
J. W. Press, Research Entomologist
Dr. C. E. Shelby, Research Geneticist

Chemical Control Research Unit

To develop new and improve upon methods of chemical control for insect pests attacking postharvested commodities in the marketing channels.

Hagen B. Gillenwater, Research Entomologist, Research Leader
L. D. Cline, Entomologist
N. M. Dennis, Chemist
Dr. J. G. Leesch, Research Entomologist
L. M. Redlinger, Research Entomologist
Dr. J. L. Zettler, Research Entomologist

Environmental and Special Problems Research Unit

To conduct fundamental and applied research in support of the Laboratory's mission and to develop new and improved methods, including integrated approaches of environmental modifications for the control of insects in the marketing channels.

Dr. Robert Davis, Research Entomologist, Research Leader
Roy E. Bry, Research Entomologist
Dr. H. A. Highland, Research Entomologist
Dr. E. G. Jay, Research Entomologist
Dr. M. A. Mullen, Research Entomologist
Dr. Helen C. F. Su, Research Chemist

Pesticide Residue Analysis and Methods Development Unit

To identify and synthesize chemicals with biological activity, to provide pesticide residue analyses in support of the Laboratory's projects, and to develop and improve upon analytical methods for residue determination.

Dr. R. A. Simonaitis, Research Chemist, Research Leader
Dr. J. M. Zehner, Research Chemist

Physical Control Research Unit

To conduct fundamental research in support of the Laboratory's mission and to develop upon physical and environmental control methods including integrated approaches for control of insects in the marketing channels.

E. W. Tilton, Research Entomologist, Research Leader
Dr. J. H. Brower, Research Entomologist
Dr. W. A. Bruce, Research Entomologist
R. L. Kirkpatrick, Research Entomologist
M. W. Street, Research Physicist
H. H. Vardell, Entomologist

Southeastern Fruit and Tree Nut Research Laboratory
Byron, Georgia 31008

P. O. Box 87
Phone: (912) 743-2421 FTS
(912) 956-5656 COM

The Laboratory is the center of the Southeast for research on fresh-market peaches, nectarines, plums, apples, pecans, and chestnuts. Projects include breeding, nutrition and physiology, disease control, insect control, mechanical harvesting, and post-harvest physiology and pathology. The market quality program includes research on pre-cooling and waxing techniques for peaches and apples, shipping tests of apples to European markets, control of spoilage of stored pecans and chestnuts, and mycotoxin identification.

Dr. Hugh C. Kirkpatrick, Plant Pathologist, Research Leader,
Location Leader
Dr. J. M. Wells, Plant Pathologist
Lillie Bowden, Secretary

Cotton Quality Research
Clemson, South Carolina 29631

P. O. Box 792
Phone: (803) 654-2938 COM

This facility conducts investigations on cotton fibers and yarns to develop instruments, methods, and techniques for measuring factors contributing to spinning performance and product quality for use in monitoring and establishing the market quality of cotton and in developing an improved classification system.

Charles K. Bragg, Research Textile Technologist, Research
Leader, Location Leader
Joseph B. Cocke, Agricultural Engineer
John S. Graham, Research Cotton Technologist
Robert A. Mullikin, Supervisory Cotton Technologist
Henry H. Perkins, Jr., Research Chemist
Edward H. Shanklin, Supervisory Cotton Technologist
Jennifer M. Chipman, Clerk-Stenographer

Florida--Antilles Area

Dean F. Davis
Area Director
1700 S.W. 23rd Drive
P. O. Box 14565
Gainesville, Florida 32604
(904) 372-5250 FTS

Dr. Lawrence W. Larson
Assistant Area Director

Stella Taylor
Secretary

Mary L. Pagan
Secretary

Handling and Facilities Research
Gainesville, Florida 32611

102 Agricultural Engineering Building
University of Florida
Phone: (904) 392-1896 COM
(904) 377-3268 FTS

This unit is concerned with development of more efficient methods, equipment, and facilities for handling and preparation for market of citrus, vegetables, and potatoes. The program is under cooperative arrangements with the Florida Agricultural Experiment Stations and the Institute of Food and Agricultural Sciences, University of Florida. Work has focused on operations for the fresh-market form of the commodities. Research activity is conducted both in the University of Florida laboratory and the shop facilities and in commercial packinghouses.

E. K. Bowman, Industrial Engineer, Research Leader
J. J. Gaffney, Agricultural Engineer
F. E. Henry, Industrial Engineer
J. C. Teele, Industrial Engineering Technician
Glenna Graham, Clerk-Stenographer

Insect Attractants, Behavior, and Basic Biology Research Laboratory
Gainesville, Florida 32604

P. O. Box 14565
1700 S. W. 23rd Drive
Phone: (904) 373-6701 COM
(904) 373-5011 (Laboratory)
(904) 372 + extension

This Laboratory is concerned with conducting basic research on the biological mechanisms which promote and maintain insect populations leading to manipulation of these mechanisms in pest management. Specifically, the processes of growth and development and of perception and orientation are studied. Concentration is on the chemical and physical cues which mediate these processes, leading to better understanding and use of present pest control techniques and development and demonstration of concepts for new options.

Biology Research Group

Develops basic knowledge on the biology, ecology, behavior, and physiology of insects that infest, damage, and contaminate agricultural commodities that have entered marketing channels. This includes research on: (1) Biology in the broad sense, with attention to studies on the role of hormones and pheromones in reproductive biology, population dynamics of individual species and interspecies competition; (2) ecology, including means by which insects sense and respond to environmental factors and the influence of these factors on the life and functions of the insects; (3) behavior, such as responses to pheromones, hormones, food and other chemical or physical stimuli; and (4) physiology including metabolic control mechanisms at the cellular and sub-cellular levels and the biochemical events that occur during growth and reproduction. The research goal is to provide knowledge that can be used by more applied laboratories in developing preventive and control measures for stored-product insects.

Dr. Dereell L. Chambers, Entomologist, Research Leader	
Laboratory Director.....	5205
Dr. J. A. Coffelt, Entomologist.....	5224
Dr. S. M. Ferkovich, Entomologist.....	5280
Dr. D. W. Hagstrum, Entomologist.....	5282
Dr. F. O. Marzke, Entomologist.....	5215
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Mildred Bullett, Secretary	
Verna Fink, Secretary	

U.S. Horticultural Research Laboratory
Orlando, Florida 32803

2120 Camden Road
Phone: (904) 377-2240, 2244, 2220 FTS
(305) 898-6791 COM

The Market Quality and Transportation Research Unit is concerned with the handling, packaging, transportation, and storage of horticultural crops, primarily citrus and vegetables. Current emphasis is on quality maintenance of commodities exported to Europe and Far Eastern markets, palletization, improved packaging, van container evaluation, controlled atmosphere effects on citrus and vegetable crops, and decay control of citrus and vegetable crops.

Dr. William C. Cooper, Plant Physiologist, Research Leader,
Location Leader, Laboratory Director
Vera W. Staples, Clerk-Stenographer

Market Quality and Transportation Research Unit

Dr. T. T. Hatton, Jr., Horticulturist, Research Leader
Randall H. Cubbedge, Technician
Paul L. Davis, Research Chemist
Kathleen A. Munroe, Technician
William F. Goddard, Mechanical Engineer
Philip W. Hale, Agricultural Economist
Richard Golab, Technician
Dr. Otto L. Jahn, Research Horticulturist
Michael Gay, Technician
William R. Miller, Agricultural Economist
Thomas Moffitt, Technician
Dr. Ralph Segall, Research Plant Pathologist
Alice Dow, Technician
Dr. John J. Smoot, Research Plant Pathologist
Currie Melvin, Technician

Gulf Coast Experiment Station
Bradenton, Florida 33507

Agricultural Research and Education Center
University of Florida
P. O. Box 2125
5007 - 60th Street East
Phone: (813) 755-1568 COM

This location is concerned with market quality research on cut flowers. Laboratory personnel study the effects of storage, handling, and floral preservatives on quality and longevity of cut flowers.

Dr. Francis J. Marousky, Research Horticulturist, Research
Leader, Location Leader
Hazel Smith, Secretary

Subtropical Horticulture Research Station
Miami, Florida 33158

13601 Old Cutler Road
Phone: (305) 328-9321 COM
(305) 350-6011 FTS

This program concerns quality maintenance of fruits and vegetables during storage and handling. Research with subtropical fruits emphasizes means to prevent or retard development of chilling injury and decay.

Dr. Arthur K. Burditt, Jr., Entomologist, Research Leader,
Location Leader
Dr. Donald H. Spalding, Research Plant Pathologist
Judith Hazelwood, Secretary-Stenographer

Mississippi Valley Area

John C. Stephens
Research Area Director
U.S. Delta States Agricultural Research Center
P. O. Box 225
Stoneville, Mississippi 38776
(601) 686-1110 FTS
(601) 686-2311 COM

Dr. Edward B. Knipling
Assistant Area Director

Alma C. Abdo
Secretary

Sandra D. Warren
Secretary

U.S. DELTA STATES AGRICULTURAL RESEARCH CENTER
Stoneville, Mississippi 38776

John C. Stephens, Location Leader, Center Director, Research
Area Director
Alma C. Abdo, Secretary
P. O. Box 225
Phone: (601) 686-1110 FTS
(601) 686-2311 COM

U.S. Cotton Ginning Laboratory

P. O. Box 256
Phone: (601) 686-1110 FTS
(601) 686-2385 COM

The objectives of this research are to develop and test improved methods and equipment for handling, aerating, storing, and drying cottonseed and soybeans which will provide desirable environments to maintain product quality, reduce deterioration, inhibit production of mycotoxins, and reduce storage costs.

V. P. Moore, Cotton Technologist, Research Leader,
Laboratory Chief
Jewel D. May, Secretary-Stenographer

Cotton and Oil Seed Storage Research
S. T. Rayburn, Agricultural Engineer

Oklahoma--Texas Area

Dr. Joseph R. "Rex" Johnston
Area Director
P. O. Drawer EC
College Station, Texas 77843
(713) 846-1346 FTS

Dr. Robert A. Hoffman
Assistant Area Director

Carol Christie
Secretary

Transportation and Market Quality Research
College Station, Texas 77840

P. O. Box ED
Phone: (713) 846-1331 FTS
(713) 846-8821 COM

This facility is concerned with research to find more efficient, less costly ways of packaging, handling, and transporting agricultural and food products to domestic and foreign markets; developing better transport equipment, shipping containers, packaging, refrigeration loading, handling, and transport techniques; providing technical assistance and counsel to shippers and carriers to enable adapting research findings to their operations; conducting investigations on the cause and prevention of postharvest microbiological deterioration of field crops. Current research emphasizes the study of mycotoxins particularly in regard to environmental conditions that favor or prevent their occurrence. The prevalence and relation of specific fungi to mycotoxin contamination of field crops are also studied.

Thomas H. Camp, Industry Economist, Research Leader
Harry W. Schroeder, Plant Pathologist, Research Leader
Pat Riley, Secretary-Stenographer

Meat Handling and Facilities Research
Stillwater, Oklahoma 74074

109 Meat Laboratory
Oklahoma State University
Phone: (405) 372-1969 COM
(405) 372-6211, ext. 7046 COM

This mission of this research is to develop improved methods, equipment, and facility layouts for increasing the efficiency of handling livestock and fabricating, processing, storing, packaging, and shipping of animal byproducts in meat packing plants and related industries such as boning houses, hotel and restaurant supply houses, rendering plants, and meat wholesale branch houses.

Donald R. Hammons, Industrial Engineer, Research Leader
Clayton F. Brasington, Jr., Industrial Engineer
Cathy Prater, Secretary

(Scheduled to be moved to College Station, Texas, in 1974)

Rice Pasture Experiment Station
Beaumont, Texas 77706

Route 5, Box 784
Phone: (713) 838-0271 FTS
(713) 752-2741 COM

Objectives at this facility are (1) to develop superior quality, short season rice varieties that are high yielding and resistant to lodging, diseases, and insects; (2) to improve methods of controlling rice diseases through development of resistant varieties and the use of fungicides; (3) to evaluate the milling, cooking, and processing qualities of new rice varieties and selections developed by rice breeders in the national varietal improvement programs; to develop new tests and improve current ones that will differentiate and characterize rice quality more accurately; and to conduct basic investigations on factors responsible for differences in rice quality; (4) to improve insect control in stored rice, rice products, and facilities where rice is stored or processed through the use of insecticidal treatments, resistant packaging and knowledge of biology, ecology, and behavior of insects; (5) to determine the importance of the various stored-product insects to export commodities, carriers, and facilities and investigate control measures to determine the most appropriate avenues for further research; (6) to study methods of drying and storing rough rice in off-farm facilities to identify and evaluate new techniques.

Dr. Charles N. Bollich, Research Agronomist, Research
Leader, Location Leader
Dr. B. D. Webb, Research Chemist
Dr. Marco A. Marchetti, Plant Pathologist
David L. Calderwood, Research Agricultural Engineer
Robert R. Cogburn, Research Entomologist
Priscilla L. Johnson, Clerk-Typist

Subtropical Texas Area

Edgar A. Taylor
Area Director
509 West 4th Street
Weslaco, Texas 78596
(512) 968-5913 COM

Dr. William F. Schwiesow
Assistant Area Director

Juanita Escamilla
Secretary

Market Quality Research
Weslaco, Texas 78596

P. O. Box 267
Phone: (512) 968-5533 COM

This facility is concerned with research on quality maintenance, deterioration, and spoilage in fresh citrus and other subtropical fruits and vegetables during handling, transportation and storage.

Dr. Roy E. McDonald, Research Horticulturist, Research
Leader
William R. Buford, Biological Laboratory Technician

(Dr. McDonald is scheduled to move to the European Marketing Research Center, Rotterdam, Netherlands, in the fall of 1974.)

Other Locations or Activities of Interest to Marketing in Southern
Region

SOUTHERN REGIONAL RESEARCH CENTER
New Orleans, Louisiana 70179

Dr. Mary E. Carter, Director
Dr. G. E. Goheen, Assistant Director
Dr. B. H. Wojcik, Assistant director
Estelle Bogner, Secretary-Stenographer
Betty Hoggerwerf, Secretary-Stenographer
Mary Connor, Secretary-Stenographer
P. O. Box 19687
Phone: (504) 527-7511 FTS

This Center conducts basic agricultural, chemical, and physical property studies on a wide range of agricultural products to develop new or more efficient uses for farm products. Particular specialties are in cotton and southern crops.

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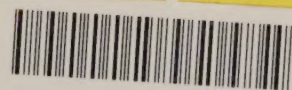
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